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7 Party to the WaterFix Hearing
8 Principal, California Water Research

9
10 **BEFORE THE**
11 **CALIFORNIA STATE WATER RESOURCES CONTROL BOARD**

12 HEARING IN THE MATTER OF
13 CALIFORNIA DEPARTMENT OF WATER
14 RESOURCES AND UNITED STATES
15 BUREAU OF RECLAMATION
16 REQUEST FOR A CHANGE IN POINT OF
17 DIVERSION FOR CALIFORNIA WATER
18 FIX

19 RESPONSE TO SECTION E OF
20 CALIFORNIA WATER RESOURCES'
21 "MASTER RESPONSE TO SIMILAR
22 OBJECTIONS MADE BY PROTESTANTS
23 COLLECTIVELY."

24 The California Department of Water Resources' ("DWR") "Master Response To
25 Similar Objections Made By Protestants Collectively," filed on July 20, 2016, includes a section,
26 (Section E, p. 14) addressing the objections to DWR's controversial computer models. ("Section
27 E".) The argument in Section E includes inaccurate characterizations of case law on scientific
28 evidence, as well as misleading citations to documents that DWR has not submitted as exhibits.
This has been prejudicial in that DWR has implicitly referred to the arguments in Section E in
objections to cross-examination on the modeling during the hearing, and in objections to the
testimony and exhibits presented in the Case in Chief of Deirdre Des Jardins, principal at
California Water Research. California Water Research therefore submits this partial response to
the arguments in Section E, before further rulings in the Hearing.¹

¹ California Water Research reserves the right to respond further to the legal arguments made in DWR's

1 DWR asserted in Section E that (a) the CALSIM model had been peer reviewed and (b)
2 the issue of the reliability of the CALSIM model had been decided by the courts. However,
3 these assertions reflect a misunderstanding of the technical issues and case law.

4 **Technical Issues**

5
6 DWR's argument in Section E included a web link to the 2003 CALSIM peer review in a
7 footnote (p. 14). But the 2003 CALSIM "peer review" was not a peer review, but only a
8 strategic review of the model. The review panel explained:

9 The information we received and the shortness of our meetings with modeling staff
10 precluded a thorough technical analysis of CALSIM II. We believe such a technical
11 review should be carried out. Only then will users of CALSIM II have some assurance as
12 to the appropriateness of its assumptions and to the quality (accuracy) of its results. By
13 necessity our review is more strategic.

14 (Exhibit DDJ-101, (California Bay Delta Science Program, *A Strategic Review of CalSim*
15 *II and its Use for Water Planning, Management, and Operations in Central California*
16 (Dec. 4, 2003) ("2003 Peer Review"). (p. 8)

17 Thus DWR had never provided the required technical information to the 2003 peer
18 review panel, a fact brought to DWR's attention by the brief submitted by California Water
19 Research on July 12, 2016, "Evaluation of Testimony on the Reliability of the Modeling," which
20 quoted the above statement.

21 **Citations to Case Law Regarding Scientific Evidence**

22 In Section E, DWR quotes part of an unpublished appellate court decision, *California*
23 *Water Impact Network v. Newhall County Water Dist.* (Cal. Ct. 9 App., May 13, 2009,
24 No.B203781) 2009 WL 1314719, which stated in part that use of CALSIM was acceptable for
25 the purposes of CEQA, since the City's EIR/EIS included a discussion of its recognized
26 shortcomings. California Water Research has since obtained a copy of the unpublished opinion.
27 The copy clearly states on p. 2:

28 _____
"Master Response to Objections."

1 California Rules of Court, rule 8.1115(a), prohibits courts and parties from citing or
2 relying on opinions not certified for publication or ordered published, except as specified
3 by rule 8.1115(b). This opinion has not been certified for publication or ordered
published for purposes of rule 8.1115.

4 In short, the *Cal. Water Impact Network v. Newhall County Water Dist.* opinion is not precedent.
5 For the same reasons that DWR is not allowed to cite or rely on it as precedent, this Board
6 should not treat it as precedent.

7 In Section E, DWR also made general assertions that the CALSIM model has been used
8 by federal agencies. (Section E, 14:5-8.) A review of the discussion of the use of CALSIM in
9 the 2009 Biological Opinion, shows that NMFS and FWS biologists decided to use actual data
10 from DAYFLOW in the Biological Opinion, because they felt the model results were unreliable.

11
12 The inaccuracies in CALSIM lead us to use actual data to develop an empirical baseline
13 We calculated monthly or multiple month averages or medians based on
14 these daily hydrology data sets. The historical time series are intended to show
15 where changes in water project operations have caused or contributed to changed
Delta hydrology and to serve as an empirical baseline of SWP and CVP operations
for comparison to proposed futures modeled using CALSIM II.

16 Exhibit SWRCB-87 (2008 Fish and Wildlife Service Formal Endangered Species Act
17 Consultation on the Proposed Coordinated Operations of the Central Valley Project
(CVP) and State Water Project (SWP)) at p. 205.

18 DWR, the Board or the protestants could use information on reservoir releases, flows and
19 diversions under current operations to assess the current baseline. This information is also
20 required under Cal Code Regs. Tit. 23 § 794.

21 Having inaccurately referred to an alleged approval of CALSIM II, DWR then cited
22 another state case, *People v. Doolin* as deciding that the precedent in *Cal. Water Impact Network*
23 *v. Newhall County Water Dist.* and other unspecified state decisions controlled the approval of
24 the use of the model in this proceeding. DWR stated in Section E:

25 Further, even if *People v. Kelly* were applied in this situation, CALSIM2 clearly meets
26 the Kelly requirements, because for purposes of the Kelly test, once a published appellate
27 opinion has accepted a scientific technique, that precedent controls any subsequent trials
where that technique is used. (*People v. Doolin* (2009) 45 Cal.4th 390, 21 447.)

1 Therefore, if the Board did choose to apply *People v. Kelly* to the Change Petition, it
2 must permit CALS1M2 because of its precedential acceptance before this Board and in
3 13 separate federal and state decisions (see discussion, *supra*.)

4 (California Department of Water Resources, Master Response To Similar Objections
5 Made By Protestants Collectively, Section E, 17:21.)

6 This general conclusion that the decision in *People v. Doolin* applies to all scientific
7 techniques, for all uses, is inaccurate. *People v. Doolin* is a first degree murder case involving
8 the death penalty and DNA evidence. DNA evidence has a sufficiently small error rate that it is
9 accepted in death penalty cases. This is clearly not the case for CALSIM. Even for DNA
10 evidence, any criminal trial requires testimony in a Kelly-Frye Hearing that the DNA evidence
11 has a valid chain of custody, and that the evidence was analyzed by an accredited laboratory.
12 The appellate court reviewed the testimony in the Kelly-Frye hearing in *People v. Doolin*.
13 (*People v. Doolin* (2009) 45 Cal.4th 390, 446.)

14 In the case of the CALSIM modeling, not only does the model have major known
15 limitations, there is no current, relevant information on the model testing, calibration, or error
16 rate submitted for the hearing. A “quasi-validation” study of a 2003 CALSIM version was cited
17 in written testimony as validating the 2015 model for use in the hearing. (DWR-71, 8:25.)
18 California Water Research’s case in chief provides testimony that calibration and testing
19 information for a 13 year old model version is wholly insufficient.

20 Petitioners also argued in Section E that the Board had used CALSIM in Decision 1641.
21 To the extent that CALSIM or its predecessor model, DWRSIM was used in Decision 1641, the
22 reliance on the model was misplaced. The DSM2 model, which uses CALSIM II as inputs,
23 predicted that water quality would improve at Vernalis and in the South Delta. In approving the
24 JPOD, the Board relied on the testimony that 50 salinity exceedances were “rounding errors.”
25 (Exhibit SWRCB-21, p. 28-29.) As South Delta Water Agency’s witnesses have testified in Part
26 1B, water quality declined at Vernalis and in the South Delta after 2000, and it is continuing to
27 impact farmers.

1 In sum, DWR's argument that the issue of reliability of the CALSIM model results has
2 been decided by courts mischaracterizes the technical issues and case law. To the extent that
3 DWR has argued that the Board's past reliance on CALSIM or its predecessor model in Decision
4 1641 supports the Board's reliance on CALSIM in this proceeding, the Board should examine
5 whether the modeling information provided in Decision 1641, was, in hindsight, as reliable as
6 was represented.

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8 Respectfully submitted,

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12 Deirdre Des Jardins
13 Principal, California Water Research
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2 **STATEMENT OF SERVICE**

3
4 **CALIFORNIA WATERFIX PETITION HEARING**
5 **Department of Water Resources and U.S. Bureau of Reclamation**
6 **(Petitioners)**

7 I hereby certify that I have this day submitted to the State Water Resources
8 Control Board and caused a true and correct copy of the following document(s):

9 **Response to DWR on CALSIM Model Reliability**

10 to be served **by Electronic Mail** (email) and **by reference to the FTP site** per the
11 Hearing Rulings, in parts due to server limitations, upon the parties listed in Table 1 of
12 the **Current Service List** for the California WaterFix Petition Hearing, dated November
13 15, 2016, posted by the State Water Resources Control Board at
14 http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/california_waterfix/service_list.shtml

15 I certify that the foregoing is true and correct and that this document was
16 executed on December 12, 2016.

17 Signature: 

18 Name: Deirdre Des Jardins
19 Title: Principal, California Water Research

20 Party/Affiliation:
21 Deirdre Des Jardins

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